

1                   IMPROVING THE PERFORMANCE OF A  
2                   ROTARY ACTUATOR IN A DISK DRIVE

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4                   ABSTRACT

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6           A method for improving the performance of a rotary actuator in a disk drive, the  
7   rotary actuator comprises a voice coil motor (VCM) characterized by a torque parameter,  
8   the disk drive comprises a servo control system having a motor driver circuit for receiving  
9   a series of command effort signals (CEFs) transmitted based on a first seek profile, and  
10   for providing an operating current to VCM based on the CEFs for causing a movement of  
11   the actuator from a first radial location to a target radial location. The method includes  
12   recording the transmitted CEFs, and while actuator is moving: adjusting each recorded  
13   CEF to account for a disk drive influence on actuator movement; storing adjusted CEFs;  
14   monitoring velocity of moving actuator; calculating an acceleration value corresponding  
15   to moving actuator from the stored CEFs and monitored velocity; and adjusting the  
16   acceleration value to account for a radial torque parameter variation.